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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,622	02/20/2002	Paul Paquin	216324US0PCT	1127
22850	7590	03/24/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			BECKER, DREW E	
			ART UNIT	PAPER NUMBER
			1761	
DATE MAILED: 03/24/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/926,622	PAQUIN ET AL.	
	Examiner	Art Unit	
	Drew E. Becker	1761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Request for Continued Examination

1. The request filed on January 17, 2006 for an RCE based on parent Application No. 09/926,622 is acceptable and an RCE has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 24-43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The application does not appear to disclose treatments of "at least" three or five repetitions, "increased flow rate and pressure drop bringing about shear stresses, cavitation, turbulence, and/or impingement", a pressure of "about 100 MPa to 300 MPa", a temperature range of "25 to 60°C", microorganisms such as "fungi", and "at least 2 to 8 logs fewer" microorganisms. It is noted that Figure 1 is directed to a phosphate buffer which has been intentionally colonized by the applicant, as opposed to a food product with its naturally occurring populations. It is

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requested that applicant provide a table with side-by-side columns disclosing where each and every claim limitation is supported by the application.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 31-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 31 recites "50 MPa to 500 MPa (7,250 psi – 72,500 psi). It is not clear which pressure is required since the two pressure ranges are not precisely the same.

7. Claim 32 recites "100 MPa to 300 MPa (14,500 psi – 43,500 psi). It is not clear which pressure is required since the two pressure ranges are not precisely the same.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 24-26, 28-32, and 34-43 are rejected under 35 U.S.C. 102(b) as being anticipated by DE 3903648A1.

DE 3903648A teaches a process for reducing bacteria by pressurizing a liquid food (page 4, lines 4-10, Figure 1, #3), passing the liquid food through a homogenizing valve

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for 20 minutes (page 6, claims 5 & 8: Figure 1, #6), collecting the liquid food (Figure 1, #1), the pressure being 50-150 MPa (page 6, claim 4), the microorganisms including viruses and bacteriophages (page 4, lines 4-8), the liquid being milk and water (page 4, lines 4-10), a lack of denaturation, milk inherently including fat, operation at ambient temperatures which was conventionally considered to be about 25°C, the liquid inherently passing through the homogenizer at least five momentary times during the course of 20 minutes of continuous circulation (page 6, claim 8), and the process inherently reducing the population of Listeria, Salmonella, and E. coli due to its identical process steps and materials as those claimed by applicant. See MPEP 2112.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 24-32, and 34-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark et al [Pat. No. 5,232,726] in view of Kucherov [Pat. No. 6,019,947].

Clark et al teach a process for reducing bacteria by pressurizing a liquid food (column 2, line 42), passing the liquid food through a homogenizing valve for a full minute (Figure 1; column 3, line 38), collecting the liquid food (column 3, line 41), the pressure being 15,000 psi or greater (column 2, line 55), the microorganisms including bacteria such as

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Saccharomyces cerevisia (column 6, line 15), the liquid including citrus juice (column 6, line 21), citrus juice inherently including oils and water, a lack of denaturation, and a temperature of 25.5°C (column 3, line 46). Clark et al do not specifically recite at least 5 circulations, and a 2-8 log reduction of bacteria such as *Listeria*, *Salmonella*, and *E. coli*. Kucheroz teaches a process for sterilization of liquid food by multiple passes through a turbulent chamber (Figure 13). It would have been obvious to one of ordinary skill in the art to incorporate the high number of passes taught by Kucheroz, into the invention of Clark et al since both are directed to methods of processing liquid foods with dynamic high pressure, since Clark et al already taught operating a continuous loop system for a full minute (column 3, line 38) which would have produced at least a few passes, and since Kucheroz teaches that a large number of passes, such as 40 (Figure 13), resulted in sterilization of the food (ie total elimination of all microorganisms).

12. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clark et al, in view of Kucheroz, as explained above, and further in view of Emulsiflex [website and in view of page 7, line 4 of applicant's remarks dated 1/17/06].

Clark et al and Kucheroz teach the above mentioned concepts. Clark et al and Kucheroz do not recite an Emulsiflex C160 homogenizer. The Emulsiflex website teaches that the Emulsiflex C160 was effective reduction of *E. coli* in liquid foods. It would have been obvious to one of ordinary skill in the art to incorporate the Emulsiflex C160 into the invention of Clark et al, in view of Kucheroz, since all are directed to methods of processing liquid foods, since Clark et al taught the use of any conventional

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homogenizer (column 2, line 52), and since the Emulsiflex C160 homogenizer was known to be effective for reducing microbial populations (website).

Response to Arguments

13. Applicant's arguments filed January 17, 2006 have been fully considered but they are not persuasive.

Applicant argues that DE 3903648A does not teach an Emulsiflex C5 or C160. However, only claim 33 requires this.

Applicant argues that DE 39036448A taught a device which is used as a homogenizer, but that it somehow cannot be a considered a homogenizer. However, this logic is clearly flawed since the operation of homogenizing a liquid food qualifies a device as a homogenizer.

Applicant argues that DE 3903648A required 1-20 minutes per pass, However, this is clearly not the case. DE 3903648A teaches that the continuous loop, which included a homogenizer, was operated for 1-20 minutes. Thus, the fluid passes thru the homogenizer at least several times during the course of the 20 minute treatment.

Applicant argues that DE 3903648A does not recite a process that "does not denature" the food. However, DE 3903648A operates without any added heat and does not teach any sort of denaturation. Therefore, it meets the claim limitation.

Applicant argues that DE 3903648A refers to the milk industry, yet cannot be used for milk. However, this reasoning is clearly wrong since DE 3903648A teaches that


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the fluid can be "carbohydrate or protein containing solutions.... This plays a considerable role... in the milk industry" (page 4, line 4).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Drew E. Becker whose telephone number is 571-272-1396. The examiner can normally be reached on Mon.-Fri. 8am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DREW BECKER
PRIMARY EXAMINER

3-21-06